

Amendments to the Claims

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1 - 56. (canceled)

57. (Currently Amended) A method for maintaining a session state in a plurality of server computers forming a server computer group, wherein the server computer group comprises a first server, a second server, and a third server, wherein each server of the server computer group is configured to interact with a customer, the method comprising:
- (a) creating a first session state for the customer, wherein at least a portion of the act of creating a first session state is performed on the first server, wherein the first session state corresponds to a first interaction between the customer and the first server;
  - (b) storing the first session state in the first server, wherein storing the first session state in the first server comprises, via a server interface thread on the first server, storing the first session state in a fact array stored locally on the first server;
  - (c) transmitting data relating to the first session state to the second server and the third server, wherein at least a portion of the act of transmitting data relating to the first session state is performed by the first server, and wherein transmitting data relating to the first session state to the second server and the third server comprises transmitting, via a command publisher thread coupled to the server interface thread on the first server, a command to the second server and the third server that, when executed by a server from the server computer group, causes the executing server to locally store the first session state;
  - (d) creating the first session state in the second server and the third server in accordance with the transmitted data relating to the first session state, wherein the act of creating the first session state in the second server and the third server includes storing the first session state in the second server and the third server; and
  - (e) updating the first session state to create an updated session state, wherein at least a portion of the act of updating the first session state is performed by the second

server, wherein the act of updating the first session state to create an updated session state results in the updated session state being stored on the second server, wherein the updated session state corresponds to a second interaction between the customer and the second server, wherein the second interaction occurs subsequent to the first interaction.

58. (Original) The method of claim 57, further comprising:
- (a) transmitting data relating to the updated session state to the first server and the third server, wherein at least a portion of the act of transmitting data relating to the updated session state is performed by the second server; and
  - (b) creating the updated session state in the first server and the third server in accordance with the transmitted data relating to the updated session state, wherein the act of creating the updated session state includes storing the updated session state in the first server and the third server.
59. (Currently Amended) The method of claim 58, further comprising:
- (a) transmitting an update command to the first server and the third server, wherein at least a portion of the act of transmitting an update command is performed by the second server; and
  - (b) receiving the update command, wherein the update command is received by the first server and the third server, wherein receiving the update command by the first server comprises receiving the update command via a subscriber thread executing locally on the first server, wherein the subscriber thread is coupled to the fact array stored locally on the first server, wherein receiving the update command by the third server comprises receiving the update command by a subscriber thread executing locally on the third server, wherein the subscriber thread is coupled to a fact array stored locally on the third server, wherein the act of creating the updated session state in the first server and the third server is performed in response to the update command.
60. (Original) The method of claim 59, wherein the update command is transmitted with the data relating to the updated session state to the first server and the third server.

61. (Original) The method of claim 58, wherein the act of creating the updated session state in the first server and the third server comprises modifying the first session state.
62. (Original) The method of claim 58, wherein the act of creating the updated session state in the first server and the third server comprises deleting the first session state and adding the updated session state.
63. (Currently Amended) The method of claim 58, wherein the act of ~~act of~~ transmitting data relating to the updated session state is performed in response to a request for session state information.
64. (Original) The method of claim 57, further comprising:
  - (a) transmitting a create command to the second server and the third server, wherein at least a portion of the act of transmitting a create command is performed by the first server; and
  - (b) receiving the create command, wherein the create command is received by the second server and the third server, wherein the act of creating the first session state in the second server and the third server is performed in response to the create command.
65. (Original) The method of claim 64, wherein the create command is transmitted with the data relating to the first session state to the second server and the third server.
66. (Original) The method of claim 57, further comprising:
  - (a) transmitting a request for session state information, wherein the act of transmitting a request for session state information is performed by the first server; and
  - (b) receiving the request for session state information, wherein the request for session state information is received by at least one of the second server or the third server.

67. (Original) The method of claim 66, wherein the requested session state information is stored on the third server, the method further comprising sending the requested session state information to the first server in response to the request, wherein at least a portion of the act of sending the requested session state information to the first server is performed by the third server.
68. (Original) The method of claim 67, wherein the act of sending the requested session state information further comprises sending the requested session state information to the second server.
69. (Original) The method of claim 66, further comprising:
- (a) responding to the request for session state information, wherein the act of responding to the request for session state information is performed by at least one of the second server or the third server, wherein the requested session state information is stored on one or more responding servers;
  - (b) getting the requested session state information from at least one of the one or more of the responding servers having the requested session state information, wherein at least a portion of the act of getting the requested session state information is performed by the first server.
70. (Original) The method of claim 66, wherein the requested session state information is not stored on the third server, wherein the requested session state information is stored on the second server, the method further comprising:
- (a) determining that the session state information is not stored on the third server; and
  - (b) requesting the requested session state information from the second server, wherein at least a portion of the act of requesting the requested session state information is performed by the third server.
71. (Original) The method of claim 57, further comprising transmitting a heartbeat message to the servers of the server group, wherein the act of transmitting a heartbeat is performed by at least one of the first server, the second server, or the third server.

72. (Original) The method of claim 71, wherein the act of transmitting a heartbeat is performed periodically.
73. (Original) The method of claim 57, further comprising:
- (a) transmitting a heartbeat request to one or more servers of the server group; and
  - (b) receiving a heartbeat from at least one of the one or more servers of the server group in response to the heartbeat request.
74. (Original) The method of claim 57, wherein the act of creating a first session state for a customer includes creating a session state ID, wherein the session state ID is associated with the customer.
75. (Original) The method of claim 74, further comprising receiving the session state ID from the customer, wherein the session state ID is received by the second server, and wherein the updated session state is associated with the session state ID by the second server.
76. (Original) The method of claim 57, wherein the first session state is associated with an interaction between the customer and the first server, wherein the updated session state is associated with an interaction between the customer and the second server.
77. (Original) The method of claim 57, further comprising storing a plurality of session states in each server of the server group.
78. (Original) The method of claim 57, wherein each server of the server group coordinates session states it transmits with session states it receives from other servers of the server group.
79. (Original) The method of claim 57, wherein the first interaction and the second interaction relate to a single business transaction with the customer.

80. (Original) The method of claim 79, wherein the business transaction relates to the selection of a product by the customer.
81. (Original) The method of claim 57, wherein the first interaction and the second interaction relate to more than one business transaction with the customer.
82. (Original) The method of claim 57, wherein the first interaction and the second interaction relate to requests for data from the servers by the customer.
83. (Original) The method of claim 57, wherein customer is in communication with the server computer group via the Internet.
84. (Original) The method of claim 57, wherein the servers of the server computer group are coupled by a local area network.
85. (Original) A system comprising one or more computer readable media including instructions to perform the method of claim 57.
86. (Currently Amended) A method for maintaining session state information in a computer server farm, the computer server farm comprising a plurality of servers, wherein each server of the server farm is configured to interact with a customer, the method comprising:
  - (a) creating a first session state in a first server of the server farm, wherein the first session state is created in response to access of the first server by the customer, and wherein the first session state corresponds to a first interaction between the customer and the first server;
  - (b) broadcasting the first session state to a first plurality of servers of the server farm, wherein the first plurality of servers of the server farm includes a second server, and wherein broadcasting the first session state comprises sending the first session state to each server from the first plurality of servers via a fact publisher thread executing locally on the first server;

- (c) receiving the first session state in response to the act of broadcasting the first session state, wherein the first session state is received by each server of the first plurality of servers of the server farm;
  - (d) making at least one copy of the first session state, wherein the act of making at least one copy of the first session state is performed in each server of the first plurality of servers;
  - (e) creating an updated session state in the second server, wherein the act of creating an updated session state comprises using updating information to update the first session state, wherein at least a portion of the updating information is received by the second server from the customer, wherein the updating information corresponds to a second interaction between the customer and the second server, wherein the second interaction is subsequent to the first interaction;
  - (f) broadcasting the updating information to a second plurality of servers of the server farm, wherein the second plurality of servers of the server farm includes the first server of the server farm;
  - (g) receiving the updating information in response to the act of broadcasting the updating information, wherein the updating information is received by the second plurality of servers of the server farm, wherein the act of receiving the updating information by the first server comprises receiving the updating information via a subscriber thread executing locally on the first server; and
  - (h) updating the first session state in the second plurality of servers of the server farm in accordance with the received updating information to create the updated session state in the second plurality of servers.
87. (Original) The method of claim 86, further comprising:
- (a) broadcasting a create command to the first plurality of servers of the server farm, wherein at least a portion of the act of broadcasting a create command is performed by the first server; and
  - (b) receiving the create command, wherein the create command is received by the first plurality of servers, and wherein the act of making at least one copy of the first session state in each server of the first plurality of servers is performed in response to the create command.

88. (Original) The method of claim 87, wherein the create command is broadcast with the first session state to the first plurality of servers of the server farm.
89. (Original) The method of claim 86, further comprising:
- (a) broadcasting an update command to the second plurality of servers of the server farm, wherein at least a portion of the act of broadcasting an update command is performed by the second server; and
  - (b) receiving the update command, wherein the update command is received by the second plurality of servers of the server farm, wherein the act of updating the first session state in the second plurality of servers of the server farm is performed in response to the update command.
90. (Original) The method of claim 89, wherein the update command is broadcast with the updating information to the second plurality of servers of the server farm.
91. (Original) The method of claim 86, wherein the act of updating the first session state in the second plurality of servers of the server farm comprises modifying the first session state in each server of the second plurality of servers.
92. (Original) The method of claim 86, wherein the act of updating the first session state in the second plurality of servers of the server farm comprises deleting the first session state and adding the updated session state in each server of the second plurality of servers.
93. (Original) The method of claim 86, further comprising broadcasting a request for session information from the servers of the server farm, wherein the act of broadcasting a request for session information is performed by a requesting server of the server farm.
94. (Original) The method of claim 93, wherein the act of broadcasting the updating information to the second plurality of servers is performed in response to the request for session information.



95. (Original) The method of claim 93, further comprising sending the requested session information to the requesting server of the server farm, wherein the act of sending the requested session information to the requesting server is performed by at least one responding server of the server farm in response to the act of requesting session information.
96. (Original) The method of claim 93, further comprising:
- (a) responding to the request for session information, wherein the act of responding is performed by one or more responding servers of the server farm, wherein the requested session information is stored on the one or more responding servers; and
  - (b) getting the requested session information from at least one of the one or more responding servers of the server farm, wherein at least a portion of the act of getting the requested session information is performed by the requesting server of the server farm.
97. (Original) The method of claim 86, further comprising broadcasting a heartbeat message to the servers of the server farm, wherein the act of broadcasting a heartbeat message is performed by at least one server of the server farm.
98. (Original) The method of claim 97, wherein the act of broadcasting a heartbeat message is performed periodically.
99. (Original) The method of claim 86, further comprising
- (a) transmitting a heartbeat request to one or more servers of the server farm; and
  - (b) receiving a heartbeat from at least one of the one or more servers of the server farm in response to the heartbeat request.
100. (Original) The method of claim 86, wherein the act of creating a first session state includes creating a session state ID, wherein the session state ID is associated with the customer.

101. (Currently Amended) The method of claim 100, further comprising receiving the session state ID from the customer, wherein the session state ID is received by the second server, and wherein the created updated session state is associated with the session state ID by the second server and wherein the session state ID comprises
- (a) a first identifier, said first identifier identifying the first server; and
  - (b) a second identifier, said second identifier comprising an indication of a location of the session state in a fact array stored locally on said second server.
102. (Original) The method of claim 86, wherein the first session state is associated with an interaction between the customer and the first server, wherein the updating information is associated with an interaction between the customer and the second server.
103. (Original) The method of claim 86, further comprising storing a plurality of session states in each server of the server farm, wherein each server has more than one session state stored.
104. (Original) The method of claim 86, further comprising coordinating received session states and broadcast session states, wherein the act of coordinating is performed by each server of the server farm, wherein the received session states correspond to sessions state information received by the respective server from other servers, and wherein the broadcast session states correspond to session state information broadcast by the respective server to other servers.
105. (Original) The method of claim 86, wherein the first interaction and the second interaction relate to a single business transaction with the customer.
106. (Original) The method of claim 105, wherein the business transaction relates to the selection of a product by the customer.
107. (Original) The method of claim 86, wherein the first interaction and the second interaction relate to more than one business transaction with the customer.

108. (Original) The method of claim 86, wherein the first interaction and the second interaction relate to requests for data from the servers by the customer.
109. (Original) The method of claim 86, wherein customer is in communication with the server computer group via the Internet.
110. (Original) The method of claim 86, wherein the servers of the server computer group are coupled by a local area network.
111. (Original) A system comprising one or more computer readable media having instructions to perform the method of claim 86.
112. (Currently Amended) A system for maintaining session state information among a plurality of servers, the system comprising a plurality of servers, wherein each server of the plurality of servers is configured to communicate session state information to the other servers of the plurality of servers via a grapevine protocol, wherein the grapevine protocol permits maintenance of session state information relating to a customer on the plurality of servers, and wherein the grapevine protocol further permits each server of the plurality of server to update the session state information relating to the customer, and wherein the grapevine protocol is implemented by a set of instructions executing on each server from the plurality of servers, wherein said set of instructions configures each of said servers to:
- (a) maintain a locally stored fact array comprising a plurality of session states;
  - (b) execute a plurality of threads, said plurality of threads comprising:
    - (1) a fact publisher thread configured to transmit session state information to the plurality of servers; and
    - (2) a subscriber thread configured to receive published session state information.